

ABSTRACT

A SIMULATOR

A vehicle simulator comprising:

(i) a real-world vehicle (1) whose controls and instruments are dual-mode such that they can be switched between normal operation and simulated operation;

(ii) a retro-reflecting screen (3) which is deployed around and outside windows of a control area (cockpit) of the vehicle (1), which control area is for a person operating the simulator;

(iii) an image projector (9) for being mounted on a head or headwear of the operator;

(iv) a head position and orientation sensing system (11) mounted on the head or the headwear of the operator;

(v) a simulator host computer that receives information from controls of the vehicle (1) and sends information to the controls and to instruments of the vehicle (1) when the vehicle (1) is in a simulation mode; and

(vi) an image generator computer (8) that receives data from the simulator host computer regarding the vehicle's simulated position and orientation and that also receives data from the head position and orientation sensing system (11) regarding the operator's head position and orientation, and that sends a computed image to the image projector (9).